

CA1 PHP LAB – User-Input Code Answers

Note: Skipping Questions 11, 21, 23, 35, 39, 40, 43, 44, 47, 49

Question 1

```
// Q1: Even or Odd
$n = (int) readline("Enter a number: ");
echo ($n % 2 === 0) ? "Even\n" : "Odd\n";
?>
```

Question 2

```
// Q2: Positive, Negative, or Zero
$n = (float) readline("Enter a number: ");
if ($n > 0) echo "Positive\n"; elseif ($n < 0) echo "Negative\n"; else echo "Zero\n";
?>
```

Question 3

```
// Q3: Largest of Two Numbers
$a = (float) readline("Enter first number: ");
$b = (float) readline("Enter second number: ");
echo ($a == $b) ? "Equal\n" : ( ($a > $b) ? "Largest: $a\n" : "Largest: $b\n" );
?>
```

Question 4

```
// Q4: Largest of Three Numbers
$a = (float) readline("Enter a: ");
$b = (float) readline("Enter b: ");
$c = (float) readline("Enter c: ");
$max = $a; if ($b > $max) $max = $b; if ($c > $max) $max = $c; echo "Largest: $max\n";
?>
```

Question 5

```
// Q5: Leap Year
$y = (int) readline("Enter year: ");
$isLeap = ($y % 400 == 0) || ($y % 4 == 0 && $y % 100 != 0);
echo $isLeap ? "Leap Year\n" : "Not a Leap Year\n";
?>
```

Question 6

```
// Q6: Grades based on marks
$m = (float) readline("Enter marks (0-100): ");
if ($m >= 90) $g='A+'; elseif ($m >= 80) $g='A'; elseif ($m >= 70) $g='B'; elseif ($m >= 60) $g='C'; elseif ($m >= 50) $g='D'; else $g='F';
echo "Grade: $g\n";
```

```
?>
```

Question 7

```
// Q7: Day of the week (1-7) using switch
$d = (int) readline("Enter day number (1-7): ");
switch ($d) {case 1:$s='Monday';break;case 2:$s='Tuesday';break;case 3:$s='Wednesday';break;case 4:$s='Thursday';break;case 5:$s='Friday';break;case 6:$s='Saturday';break;case 7:$s='Sunday';break;default:$s='Invalid';}
echo "$s\n";
?>
```

Question 8

```
// Q8: Month message using switch
$m = (int) readline("Enter month number (1-12): ");
switch ($m) {
    case 12: case 1: case 2: $msg='Winter vibes'; break;
    case 3: case 4: case 5: $msg='Spring time'; break;
    case 6: case 7: case 8: $msg='Summer heat'; break;
    case 9: case 10: case 11: $msg='Autumn feels'; break;
    default: $msg='Invalid month';
}
echo "$msg\n";
?>
```

Question 9

```
// Q9: Eligible to vote (>=18)
$page = (int) readline("Enter age: ");
echo ($age >= 18) ? "Eligible\n" : "Not Eligible\n";
?>
```

Question 10

```
// Q10: Electricity bill based on units
$u = (float) readline("Enter units consumed: ");
$bill = 0;
if ($u <= 50) $bill = $u * 0.50;
elseif ($u <= 150) $bill = 50 * 0.50 + ($u-50) * 0.75;
elseif ($u <= 250) $bill = 50 * 0.50 + 100 * 0.75 + ($u-150) * 1.20;
else $bill = 50*0.50 + 100*0.75 + 100*1.20 + ($u-250)*1.50;
$bill += 0.20 * $bill; // surcharge 20%
echo "Bill: ".number_format($bill,2)."\n";
?>
```

Question 12

```
// Q12: Divisible by 5 and 11
$n = (int) readline("Enter a number: ");
echo ($n % 5 == 0 && $n % 11 == 0) ? "Divisible by 5 and 11\n" : "Not divisible b
```

```
y 5 and 11\n";  
?>
```

Question 13

```
// Q13: Prime or not  
$n = (int) readline("Enter a number: ");  
if ($n < 2) { echo "Not Prime\n"; }  
else { $prime = true; for ($i=2; $i*$i <= $n; $i++) if ($n % $i == 0) {$prime=false; break;} echo $prime?"Prime\n":"Not Prime\n"; }  
?>
```

Question 14

```
// Q14: Armstrong number or not (generalised)  
$n = (int) readline("Enter a number: ");  
$s = strval($n); $p = strlen($s); $sum = 0; foreach (str_split($s) as $ch) $sum +  
= pow((int)$ch, $p);  
echo ($sum == $n) ? "Armstrong\n" : "Not Armstrong\n";  
?>
```

Question 15

```
// Q15: Palindrome number or not  
$n = readline("Enter a number: ");  
echo ($n === strrev($n)) ? "Palindrome\n" : "Not Palindrome\n";  
?>
```

Question 16

```
// Q16: Print numbers 1..n (loop)  
$n = (int) readline("Enter n: ");  
for ($i=1; $i<=$n; $i++) echo $i.(($i<$n)?" ":"\n");  
?>
```

Question 17

```
// Q17: Print numbers n..1 (while loop)  
$n = (int) readline("Enter n: ");  
while ($n>=1) { echo $n.(($n>1)?" ":"\n"); $n--; }  
?>
```

Question 18

```
// Q18: First k even numbers  
$k = (int) readline("How many even numbers? ");  
for ($i=1; $i<=$k; $i++) echo (2*$i).(($i<$k)?" ":"\n");  
?>
```

Question 19

```
// Q19: First k odd numbers
$k = (int) readline("How many odd numbers? ");
for ($i=0; $i<$k; $i++) echo (2*$i+1).((($i<$k-1)? " ":"\n"));
?>
```

Question 20

```
// Q20: Multiplication table of a number
$n = (int) readline("Enter number for table: ");
$still = (int) readline("Enter limit: ");
for ($i=1; $i<=$still; $i++) echo "$n x $i = ".$($n*$i)."\n";
?>
```

Question 22

```
// Q22: Factorial using loop
$n = (int) readline("Enter n: ");
$f = 1; for ($i=2;$i<=$n;$i++) $f*=$i; echo "Factorial: $f\n";
?>
```

Question 24

```
// Q24: Sum of first n natural numbers
$n = (int) readline("Enter n: ");
echo "Sum: ".$($n*($n+1)/2)."\n";
?>
```

Question 25

```
// Q25: Even numbers between 1 and m
$m = (int) readline("Enter upper limit m: ");
$out=[]; for ($i=2;$i<=$m;$i+=2) $out[]=$i; echo implode(' ', $out)."\n";
?>
```

Question 26

```
// Q26: Odd numbers between 1 and m
$m = (int) readline("Enter upper limit m: ");
$out=[]; for ($i=1;$i<=$m;$i+=2) $out[]=$i; echo implode(' ', $out)."\n";
?>
```

Question 27

```
// Q27: Prime numbers between 1 and m
$m = (int) readline("Enter upper limit m: ");
for ($n=2;$n<=$m;$n++) { $p=true; for ($i=2;$i*$i<=$n;$i++) if ($n%$i==0){$p=false; break;} if($p) echo $n.' ' ; }
echo "\n";
?>
```

Question 28

```
// Q28: Pyramid pattern of stars (height h)
$h = (int) readline("Enter height: ");
for ($i=1;$i<=$h;$i++) { echo str_repeat(' ', $h-$i).str_repeat('*', 2*$i-1)."\n"
; }
?>
```

Question 29

```
// Q29: Floyd's triangle (rows r)
$r = (int) readline("Enter rows: ");
$c=1; for($i=1;$i<=$r;$i++){ for($j=1;$j<=$i;$j++){ echo $c++.' '; } echo "\n"; }
?>
```

Question 30

```
// Q30: Multiplication tables from 1 to t (default 10)
$t = (int) readline("Generate tables up to: ");
for ($n=1;$n<=$t;$n++){ echo "Table of $n\n"; for ($i=1;$i<=10;$i++) echo "$n x $
i = ".$n*$i)."\n"; echo "\n"; }
?>
```

Question 31

```
// Q31: Largest element in an array
$line = readline("Enter numbers (space-separated): ");
$arr = array_map('floatval', preg_split('/\s+/', trim($line)));
echo "Max: ".max($arr)."\n";
?>
```

Question 32

```
// Q32: Smallest element in an array
$line = readline("Enter numbers (space-separated): ");
$arr = array_map('floatval', preg_split('/\s+/', trim($line)));
echo "Min: ".min($arr)."\n";
?>
```

Question 33

```
// Q33: Sort array ascending
$line = readline("Enter numbers (space-separated): ");
$arr = array_map('floatval', preg_split('/\s+/', trim($line)));
sort($arr); echo implode(' ', $arr)."\n";
?>
```

Question 34

```
// Q34: Sort array descending
$line = readline("Enter numbers (space-separated): ");
```

```
$arr = array_map('floatval', preg_split('/\s+/', trim($line)));
rsort($arr); echo implode(' ', $arr)."\n";
?>
```

Question 36

```
// Q36: Search an element in array (linear search)
$line = readline("Enter numbers (space-separated): ");
$arr = array_map('floatval', preg_split('/\s+/', trim($line)));
$key = (float) readline("Enter element to search: ");
$pos = array_search($key, $arr, true);
echo ($pos === false) ? "Not found\n" : ("Found at index $pos\n");
?>
```

Question 37

```
// Q37: Count even and odd numbers in array
$line = readline("Enter integers (space-separated): ");
$arr = array_map('intval', preg_split('/\s+/', trim($line)));
$seven=0;$odd=0; foreach($arr as $v){ if($v%2==0)$seven++; else $odd++; }
echo "Even: $seven, Odd: $odd\n";
?>
```

Question 38

```
// Q38: Sum of elements in array
$line = readline("Enter numbers (space-separated): ");
$arr = array_map('floatval', preg_split('/\s+/', trim($line)));
echo "Sum: ".array_sum($arr)."\n";
?>
```

Question 41

```
// Q41: Reverse digits of a number
$n = (int) readline("Enter a number: ");
$rev = 0; $x = abs($n);
while($x>0){ $rev = $rev*10 + ($x%10); $x = intdiv($x,10); }
$rev = ($n<0)? -$rev : $rev; echo "Reversed: $rev\n";
?>
```

Question 42

```
// Q42: Sum of digits of a number
$n = (int) readline("Enter a number: ");
$sum=0; $x=abs($n); while($x>0){ $sum += $x%10; $x = intdiv($x,10); } echo "Sum of
digits: $sum\n";
?>
```

Question 45

```
// Q45: Calculator using switch case
$a = (float) readline("Enter first number: ");
$op = readline("Enter operator (+,-,*,/,%): ");
$b = (float) readline("Enter second number: ");
switch($op){
    case '+': echo $a+$b; break;
    case '-': echo $a-$b; break;
    case '*': echo $a*$b; break;
    case '/': echo ($b==0)? "Division by zero" : ($a/$b); break;
    case '%': echo ($b==0)? "Modulo by zero" : fmod($a,$b); break;
    default: echo "Invalid operator";
}
echo "\n";
?>
```

Question 46

```
// Q46: Pascal's triangle (rows r)
$r = (int) readline("Enter rows: ");
for($i=0;$i<$r;$i++){
    $val=1; echo str_repeat(' ', $r-$i);
    for($j=0;$j<=$i;$j++){
        echo $val.' ';
        $val = (int) ($val * ($i-$j)/($j+1));
    }
    echo "\n";
}
?>
```

Question 48

```
// Q48: Armstrong numbers between 1 and m (default 1000)
$m = (int) readline("Enter upper limit (e.g., 1000): ");
for($n=1;$n<=$m;$n++){
    $s=strval($n); $p=strlen($s); $sum=0; foreach(str_split($s) as $ch){ $sum += po
w((int)$ch,$p);} if($sum==$n) echo $n.' ';
}
echo "\n";
?>
```

Question 50

```
// Q50: GCD of two numbers (Euclid)
$a = abs((int) readline("Enter first integer: "));
$b = abs((int) readline("Enter second integer: "));
while ($b != 0) { $t = $b; $b = $a % $b; $a = $t; }
echo "GCD: $a\n";
?>
```